IN THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA,)	
)	
Plaintiff,)	
)	
v.)	Case No. 05-cv-329-GKF(PJC)
)	
TYSON FOODS, INC., et al.,)	
)	
Defendants.)	

STATE OF OKLAHOMA'S REPLY IN FURTHER SUPPORT OF ITS MOTION IN LIMINE TO PRECLUDE OPINION TESTIMONY OF THE CARGILL DEFENDANTS' WITNESS ANDY DAVIS, Ph.D. [DKT #2064]

Plaintiff, the State of Oklahoma ("the State"), respectfully submits this reply in further support of its motion in limine to preclude the opinion testimony of the Cargill Defendants' witness Andy Davis, Ph.D. ("Dr. Davis"). *See* DKT #2064.

I. Introduction

The Cargill Defendants have proffered Dr. Davis to opine that his investigation failed to identify a *direct* link between *specific* State sampling data and *specific* field locations that are adjacent to Cargill contract grower-owned or Cargill-owned growing operations, and that he was thus led to conclude that the Cargill Defendants' poultry waste has not affected the waters of the IRW. Dr. Davis' work, however, is unreliable and irrelevant on multiple levels. *First*, Dr. Davis' work ignores the fact that the State will prove that the Cargill Defendants' poultry waste is polluting the waters of the State largely through circumstantial evidence, not direct evidence. *Second*, Dr. Davis' work utilizes isolated pieces of the State's evidence for a purpose and in a manner they were never designed to be used (*i.e.*, to establish direct evidence of causation).

Third, Dr. Davis' investigation into direct evidence of causation omits a critical and necessary piece of direct evidence -- namely, Dr. Davis lacked direct evidence that poultry waste had in fact been land applied to those field locations he was attempting to link with specific sampling data. And fourth, Dr. Davis' work used the wrong data for sediment samples from the State's database to calculate the baseline that he employed to determine whether poultry waste was impacting the phosphorus levels in the waters of the IRW. Because these methodological flaws make Dr. Davis' opinions unreliable and irrelevant, these opinions must be excluded in their entirety under Fed. R.

The Cargill Defendants make three arguments in response to the State's Motion. Each fails.

Civ. P. 702 and Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993).

II. Argument

A. The Cargill Defendants mischaracterize the manner in which the State can and will prove its claims

The Cargill Defendants first argue Dr. Davis' opinions are relevant because they highlight a purported inability of the State to prove causation as to the Cargill Defendants. They do nothing of the sort. The Cargill Defendants' argument is a red-herring as it ignores the fact that the State's proof of causation as to the Cargill Defendants is not limited to direct evidence (*i.e.*, tracing a particular molecule of phosphorus from a specific land application site to a specific sampling location). The caselaw is clear that the State may also prove causation as to the Cargill Defendants (and the other Defendants) through circumstantial evidence, and that is precisely what the State will do at trial. *See, e.g., Desert Palace, Inc. v. Costa*, 539 U.S. 90, 100 (2003) ("circumstantial evidence is not only sufficient, but may also be more certain, satisfying and

persuasive than direct evidence"); Dillon v. Fibreboard Corp., 919 F.2d 1488, 1490 (10th Cir. 1990) ("It is acceptable for a party bearing the burden of proof to utilize sufficient circumstantial evidence to support his or her position"); See, e.g., Tosco Corp. v. Koch Indus., 216 F.3d 886, 892 (10th Cir. 2000) ("CERCLA liability may be inferred from the totality of the circumstances; it need not be proven by direct evidence"); United States v. Valentine, 856 F.Supp. 621, 627 (D. Wyo. 1994) (circumstantial evidence in RCRA case); Ohio Oil Co. v. Elliott, 254 F.2d 832, 834 (10th Cir. 1958); Mid-Continent Petroleum Corp. v. Miller, 79 P.2d 804, 805 (Okla. 1938); King v. State, 109 P.2d 836, 838 (Okla. Crim. App. 1941); California Oil Co. v. Davenport, 435 P.2d 560, 563 (Okla. 1967); Harper-Turner Oil Co. v. Bridge, 311 P.2d 947, 950-51 (Okla. 1957); Peppers Refining Co. v. Spivey, 285 P.2d 228, 231-32 (Okla. 1955); Friends of the Earth, Inc. v. Gaston Copper Recycling Corp., 204 F.3d 149, 163 (4th Cir. 2000) (en banc).

The State has assembled and presented a compelling array of such evidence that the Cargill Defendants' land-applied poultry waste is impacting the waters of the IRW.¹

The State's circumstantial evidence against the Cargill Defendants is overwhelming. For instance, the State has gathered and presented: (1) evidence of the massive amounts of poultry waste annually generated by the Cargill Defendants' birds within the IRW; (2) evidence as to the number and location of active poultry houses within the IRW housing Cargill's birds; (3) evidence that the vast majority of poultry waste is land applied within the IRW in proximity to the active houses where it is generated; (4) available soil test data showing that Cargill and Cargill growers have engaged in widespread disposal of poultry waste (far in excess of any agronomic need) within the IRW; (5) evidence that poultry waste is the number one source of phosphorus loading in the IRW; (6) scientific evidence showing that some portion of land-applied poultry waste is always transported from fields to waters; (7) a significant admission from Cargill regarding the transport of land-applied poultry waste; (8) evidence as to the geology of the IRW establishing ready pathways for the transport of phosphorus and bacteria from poultry waste to surface and groundwater; (9) numerous credible sources establishing that land-applied poultry waste is a significant source of pollution found in waters throughout the IRW; and (10) modeling evidence showing that approximately 59% of the phosphorus load ultimately reaching Lake Tenkiller is from land applied poultry waste.

#2178 at pp. 1-9 & DKT #2062 at pp. 5-34. The Cargill Defendants' arguments on this point are particularly unpersuasive and disingenuous in light of the fact that the Cargill Defendants themselves have admitted that there will always be run-off from the fields on which their poultry waste is land applied. See DKT #2103-4 (Cargill Turkey Products Contract Grower Environmental Best Management Practices Guide at CARTP000009) ("It should be recognized that some level of nutrient loss to surface and groundwater will occur despite following the recommendations in this manual . . . "); DKT #2081-5 (12/5/04 advertisement by several Defendants, including Cargill, stating: "Lately, a good deal of concern has been raised about the effect of excess nutrients on the land and waters of Eastern Oklahoma. So where do these nutrients come from? Nutrients can come from many sources, one of which is the use of poultry litter as an organic fertilizer. . . "); DKT #2081-6 (9/10/04 advertisement by several Defendants, including Cargill, stating: "[W]e have been working with the State of Oklahoma on a multimillion-dollar voluntary proposal to improve the management of poultry-related nutrients that might find their way into Eastern Oklahoma's Scenic River Watersheds. . . . We are prepared to do our part to take care of the poultry portion of the nutrient equation"). Simply put, the Cargill Defendants have apparently proffered Dr. Davis to contradict what they have already admitted: that the Cargill Defendants' land-applied poultry waste is running off and polluting the waters of the IRW.²

B. Dr. Davis' investigation into direct evidence of causation is methodologically flawed

The Cargill Defendants' admissions are of course well supported by a host of similar conclusions by the federal government, the Oklahoma state government, the Arkansas state government, a host of non-retained experts, the other Defendants, and the State's retained experts. See DKT #2062, Fact, ¶ 48.

As noted above, Dr. Davis attempted to investigate whether he could link specific field locations *directly* to specific State sampling data. The Cargill Defendants argue that Dr. Davis' investigation is reliable because the basis for his premise that there had in fact been land application of the Cargill Defendants' poultry waste on a specific field location was the State's evidence that poultry waste is land-applied in proximity to where it is generated. What the Cargill Defendants fail to appreciate, however, is that Dr. Davis has used this evidence for a different purpose than it was intended. While of course reliable for the proposition that poultry waste is land-applied in proximity to where it is generated, this evidence was not developed to demonstrate that poultry waste has indeed been applied to any *specific* parcel of land in order to establish *direct* evidence of causation. Yet that is precisely the purpose Dr. Davis has used the State's evidence for.⁴

Once this fact is appreciated, the unreliability of Dr. Davis' methodology used to evaluate direct evidence of causation becomes readily apparent. An obvious prerequisite to proving that a particular molecule of phosphorus found at a specific sampling location originated from a specific field would be knowledge that poultry waste had in fact been land applied on that specific field. Yet, in points that are not disputed by the Cargill Defendants:

The decision to make the Cargill Defendants' own and contract poultry houses the focal point of Dr. Davis' premise as to which fields the Cargill Defendants' poultry waste had been land applied originated with the Cargill Defendants' lawyers. See DKT #2064-3 at 81:15-24 ("Q: "who made the decision to make [the site of the barn] as your focal point in your analysis? A: That was what I was asked to do by legal counsel"). See also DKT #2064-3 at 84:13-22 (stating belief that Cargill Defendants' lawyers approved of his assumptions).

The Cargill Defendants attempt to suggest that Dr. Davis' work simply "mirrors" that of the State's experts. That, of course, is not true.

- Dr. Davis reviewed *no* land application records to determine whether the Cargill Defendants' poultry waste had in fact been land applied on those specific fields that formed the basis for his evaluation. See DKT #2064-3 at 33:19-24, 83:15-18, 83:22-84:6
- Dr. Davis reviewed *no* nutrient management plans to determine whether the Cargill Defendants' poultry waste had in fact been land applied on those specific fields that formed the basis for his evaluation. See DKT #2064-3 at 83:19-21.
- Dr. Davis made *no* inquiry or determination as to whether the Cargill Defendants' poultry waste had in fact been land applied on those specific fields that formed the basis for his evaluation. *See* DKT #2064-3 at 85:19-86:16.
- Dr. Davis made *no* investigation into the history of agricultural land use practices and their environmental impacts in the IRW. See DKT #2187-4 at 20:4-17.
- Dr. Davis made *no* visit to the IRW until after his report had been submitted. See DKT #2187-4 at 21:11-14.
- Dr. Davis undertook no sampling or collection of data in the IRW. See DKT #2187-4 at 24:4-14.

A crucial piece of factual information is thus missing from Dr. Davis' methodology. Simply put, Dr. Davis attempted to establish *direct* evidence purportedly disproving causation links between specific parcels of land to specific sampling data without confirming that poultry waste had actually been land applied to the specific parcels of land that he was investigating. As such, Dr. Davis' "direct evidence" analysis is based on pure speculation. Such speculation does not satisfy

Had Dr. Davis reviewed the ODAFF records (which were available to the Cargill Defendants), for instance, he would have discovered that certain of the Cargill Defendants' growers were prohibited from land applying poultry waste on their adjoining land due to excessive soil test phosphorus levels. See, e.g., Ex. 1 (C. Masters' animal waste management plan); Ex. 2 (G. Hurt's animal waste management plan). Likewise, the Cargill Defendants apparently neglected to inform Dr. Davis that after October 2005, the Cargill Defendants no longer land applied their poultry waste on the land at its breeder operations. See Ex. 3 (Delap Dep., 80:13-24, 83:18-21, 86:10-14). In short, the Cargill Defendants failed to inform Dr. Davis of key pieces of information pertinent to the assumptions he was operating under.

the reliability requirement of *Daubert*. *See* 509 U.S. at 590 ("knowledge" "connotes more than subjective belief or unsupported speculation").

C. Dr. Davis used the wrong data for sediment samples to calculate the baseline that he employed to determine whether poultry waste was impacting the phosphorus levels in the waters of the IRW

Dr. Davis used data from the CDM database to do his calculation of sediment baseline phosphorus concentrations. The CDM database contained both wet weight concentrations and dry weight concentrations. See DKT #2064-4 (Olsen Aff., ¶ 5). These different values were "clearly identified" in the CDM database. Because dry weight concentrations are the only consistent and comparable results, dry weight concentrations rather than wet weight concentrations are universally used by scientists. See id. Dr. Davis agreed in his deposition. See DKT #2187-4 at 140:2-5 (testifying that "a reputable scientist" would use dry weight concentrations when one is comparing different sediment samples). Despite the fact that dry weight concentrations should have been used, Dr. Davis now admits that he used wet weight calculations in his report. See DKT #2187-9 (Davis Aff., ¶ 6). Thus the opinions set forth in section 2.1 of Dr. Davis' report (including figures 1 and 2), are not consistent with good scientific methods, are unreliable, and must be excluded.⁶

* * *

Rather than admit his mistake, Dr. Davis now asserts that wet weight concentrations can be used for comparative purposes. See DKT #2187-9 (Davis Aff., ¶ 8). Dr. Davis cites no literature supporting his new position. At any rate, Dr. Davis' new position is wrong. The reason wet weight concentrations are not used for comparative purposes is that there can be significant variability in water concentrations from wet weight sample to wet weight sample. See DKT #2064-4 (Olsen Aff., ¶ 5) ("Because dry weight concentrations are the only consistent and comparable results, they are universally used by all scientists"). Apparently recognizing the weakness of his position, Dr. Davis further retreats, stating that in any event his analysis "relies primarily upon the water quality data rather than sediment data." See DKT #2187-

In sum, Defendants' contention that Dr. Davis' opinions will serve to highlight the absence of direct evidence linking the Cargill Defendants' poultry waste to specific sampling data is false. All Dr. Davis' opinions highlight are that he conducted a fundamentally flawed investigation into direct evidence of causation based upon a methodology not grounded in good science which has resulted in unreliable and irrelevant conclusions. Dr. Davis' opinions should therefore be excluded.

III. Conclusion

WHEREFORE, in light of the foregoing, this Court should enter an order in limine precluding the opinion testimony of Defendants' witness Dr. Andy Davis.

Respectfully Submitted,

W.A. Drew Edmondson OBA # 2628 ATTORNEY GENERAL Kelly H. Burch OBA #17067 ASSISTANT ATTORNEYS GENERAL State of Oklahoma 313 N.E. 21st St. Oklahoma City, OK 73105 (405) 521-3921

/s/ Richard T. Garren

M. David Riggs OBA #7583 Joseph P. Lennart OBA #5371 Richard T. Garren OBA #3253 Sharon K. Weaver OBA #19010 Robert A. Nance OBA #6581 D. Sharon Gentry OBA #15641 David P. Page OBA #6852 RIGGS, ABNEY, NEAL, TURPEN, **ORBISON & LEWIS** 502 West Sixth Street

Tulsa, OK 74119 (918) 587-3161

Louis W. Bullock OBA #1305 Robert M. Blakemore OBA 18656 BULLOCK, BULLOCK & BLAKEMORE 110 West Seventh Street Suite 707 Tulsa OK 74119 (918) 584-2001

Frederick C. Baker (admitted pro hac vice)
Elizabeth C. Ward (admitted pro hac vice)
Elizabeth Claire Xidis (admitted pro hac vice)
MOTLEY RICE, LLC
28 Bridgeside Boulevard
Mount Pleasant, SC 29465 (843) 216-9280

William H. Narwold (admitted pro hac vice)
Ingrid L. Moll (admitted pro hac vice)
MOTLEY RICE, LLC
20 Church Street, 17th Floor
Hartford, CT 06103
(860) 882-1676

Jonathan D. Orent (admitted pro hac vice) Michael G. Rousseau (admitted pro hac vice) Fidelma L. Fitzpatrick (admitted pro hac vice) MOTLEY RICE, LLC 321 South Main Street Providence, RI 02940 (401) 457-7700

Attorneys for the State of Oklahoma

CERTIFICATE OF SERVICE

I hereby certify that on this 19th day of June, 2009, I electronically transmitted the above and foregoing pleading to the Clerk of the Court using the ECF System for filing and a transmittal of a Notice of Electronic Filing to the following ECF registrants:

W. A. Drew Edmondson, Attorney General	fc_docket@oag.state.ok.us		
Kelly H. Burch, Assistant Attorney General	kelly_burch@oag.state.ok.us		
M. David Riggs	driggs@riggsabney.com		
Joseph P. Lennart	jlennart@riggsabney.com		
Richard T. Garren	rgarren@riggsabney.com		
Sharon K. Weaver	sweaver@riggsabney.com		
Robert A. Nance	rnance@riggsabney.com		
D. Sharon Gentry	sgentry@riggsabney.com		
David P. Page	dpage@riggsabney.com		
RIGGS, ABNEY, NEAL, TURPEN, ORBISON & LEWIS			
Louis Werner Bullock	lbullock@bullock-blakemore.com		
Robert M. Blakemore	bblakemore@bullock-blakemore.com		
BULLOCK, BULLOCK & BLAKEMORE			
Frederick C. Baker	fbaker@motleyrice.com		
Elizabeth C. Ward	lward@motleyrice.com		
Elizabeth Claire Xidis	cxidis@motleyrice.com		
William H. Narwold	bnarwold@motleyrice.com		
Ingrid L. Moll	imoll@motleyrice.com		
Jonathan D. Orent	jorent@motleyrice.com		
Michael G. Rousseau	mrousseau@motleyrice.com		
Fidelma L. Fitzpatrick	ffitzpatrick@motleyrice.com		
MOTLEY RICE, LLC			
Counsel for State of Oklahoma			
Robert P. Redemann	rredemann@pmrlaw.net		
PERRINE, MCGIVERN, REDEMANN, REID, BARRY & TAYLOR, P.L.L.C.			
David C. Senger	david@cgmlawok.com		
Robert E Sanders	rsanders@youngwilliams.com		
Edwin Stephen Williams	steve.williams@youngwilliams.com		
YOUNG WILLIAMS P.A.			

Counsel for Cal-Maine Farms, Inc and Cal-Maine Foods, Inc.			
Counsel for Car-Manie Farms, the and Car-Ma	Courser for Car-wiamic Parms, file and Car-wiamic Poods, file.		
John H. Tucker	jtucker@rhodesokla.com		
Theresa Noble Hill	thill@rhodesokla.com		
Colin Hampton Tucker	ctucker@rhodesokla.com		
Kerry R. Lewis	klewis@rhodesokla.com		
RHODES, HIERONYMUS, JONES, TUCKER & GABLE			
Terry Wayen West	terry@thewestlawfirm.com		
THE WEST LAW FIRM			
Delmar R. Ehrich	dehrich@faegre.com		
Bruce Jones	bjones@faegre.com		
Krisann C. Kleibacker Lee	kklee@faegre.com		
Todd P. Walker	twalker@faegre.com		
Christopher H. Dolan	cdolan@faegre.com		
Melissa C. Collins	mcollins@faegre.com		
Colin C. Deihl	cdeihl@faegre.com		
Randall E. Kahnke	rkahnke@faegre.com		
FAEGRE & BENSON, LLP			
,			
Dara D. Mann	dmann@mckennalong.com		
MCKENNA, LONG & ALDRIDGE LLP	<u> </u>		
Counsel for Cargill, Inc. & Cargill Turkey Production, LLC			
James Martin Graves	jgraves@bassettlawfirm.com		
Gary V Weeks	gweeks@bassettlawfirm.com		
Woody Bassett	wbassett@bassettlawfirm.com		
K. C. Dupps Tucker	kctucker@bassettlawfirm.com		
Earl Lee "Buddy" Chadick	bchadick@bassettlawfirm.com		
Vincent O. Chadick	vchadick@bassettlawfirm.com		
BASSETT LAW FIRM			
_			
George W. Owens	gwo@owenslawfirmpc.com		
Randall E. Rose	rer@owenslawfirmpc.com		
OWENS LAW FIRM, P.C.			
Counsel for George's Inc. & George's Farms, 1	Inc.		
A. Scott McDaniel	smcdaniel@mhla-law.com		
Nicole Longwell	nlongwell@mhla-law.com		

Also on this 19th day of June, 2009 I mailed a copy of the above and foregoing pleading

Thomas C Green -- via email: tcgreen@sidley.com Sidley, Austin, Brown & Wood LLP

to:

Dustin McDaniel Justin Allen

Office of the Attorney General (Little Rock) 323 Center St, Ste 200 Little Rock, AR 72201-2610

Steven B. Randall

58185 County Rd 658 Kansas, Ok 74347

Cary Silverman -- via email: csilverman@shb.com Victor E Schwartz Shook Hardy & Bacon LLP (Washington DC)

/s/ Richard T. Garren

Richard T. Garren